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Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005

EXAMINER

LEE, SUSAN SHUK YIN

ART UNIT	PAPER NUMBER
2852	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/960,305

Applicant(s)

JEONG

Examiner

Susan S. Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7-11,13,15,16,18,21-23,25-43,46 and 47 is/are rejected.
- 7) ☒ Claim(s) 2,4,6,12,14,17,19,20,24,44 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Upon reconsideration of the claims, the previous indicated allowability of claims 9, 22, and 32-41 is hereby withdrawn in view of the following new rejections.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the graphical user interface (claim 39) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant mentions in the remarks of the amendment filed 7/7/03 on page 18, 2nd paragraph that Fig. 1 has been amended. There are no drawing corrections filed since the last office action mailed 4/10/03 from the USPTO. Thus, the objections to the drawings still stand.

Claim Objections

Claims 13, 14, 21-25, and 45 are objected to because of the following informalities:

As to claim 13, line 4, after "mode", there should be a period.

As to claim 14, line 2, "the gray pattern level" should be - - a gray pattern level - -.

As to claim 21, line 1, there should be a period after "21".

As to claim 45, lines 3-4, "said selected print mode" lacks antecedent basis. In addition, how are the graphics mode and text mode, line 4, related to the resolution as recited in claim 16 which this claim is dependent upon?

Appropriate correction is required.

Claims 32 and 33 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The language of claim 32 is the same as claim 26 except claim 26 has "a different magnitude of **DC** voltage". Claim 32 is broader than claim 26. A claim dependent upon a previous claim cannot be broader than the previous claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishi et al. (5,991,557) in view of Gilman et al. (6,208,770).

Kunishi et al. discloses an image forming apparatus with a photosensitive body 10, a charging roller 11, a developing unit 13 with a developing roller, an image exposing means 15, a transfer means 14; and a charging bias voltage source 40. The image forming apparatus have two modes of printing, a character image formation

mode which uses a low tone reproductivity and a photograph mode which uses a higher tone reproductivity. The charging bias voltage varies according to which mode is selected, that is the frequency of the voltage of the first mode is lower than that of the second mode. Note abstract; column 3, line 60 – column 5, line 22; and column 12, lines 1-42.

Kunishi et al. differs from the instant invention by not disclosing submitting a print job via software via a user, the print job comprising a type of print job input by a user via software.

Gilman et al. discloses it is well known in the art to use software such as Adobe Photoshop software in printers to allow a user to select a particular type of print to be produced by the printer. The Adobe Photoshop software is used to drive a printer and will allow a printer to have a pull down or displayed menu that permit a user to select a number of print modes such as Photo, Photoenhance, Graph, Text, and Advanced Photo. These print modes produce types of prints that read on the instant invention's types of print jobs. Note column 1, line 63-column 2, line 3.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. with that of Gilman et al. so that a various selection of prints can be obtained by easily selecting from a menu by a user.

Claims 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishi et al. (557) in view of Gilman et al. (770), Fukui et al. (5,719,613), and Hashimoto (6,088,548).

Kunishi et al. discloses an image forming apparatus with a photosensitive body 10, a charging roller 11, a developing unit 13 with a developing roller, an image exposing means 15, a transfer means 14; and a charging bias voltage source 40. The image forming apparatus have two modes of printing, a character image formation mode which uses a low tone reproductivity and a photograph mode which uses a higher tone reproductivity. The charging bias voltage varies according to which mode is selected, that is the frequency of the voltage of the first mode is lower than that of the second mode. Note abstract; column 3, line 60 – column 5, line 22; and column 12, lines 1-42.

Kunishi et al. differs from the instant invention by not disclosing a graphical user interface enabling a user to cause the electrophotographic apparatus to print a print job, and allowing the user to specify a type of print job; a controller causing the light source to operate at an appropriate power level based on the magnitude of voltage applied to the charge roller; and a transfer means being a transfer roller.

Gilman et al. discloses it is well known in the art to use software such as Adobe Photoshop software in printers to allow a user to select a particular type of print to be produced by the printer. The Adobe Photoshop software is used to drive a printer and will allow a printer to have a pull down or displayed menu that permit a user to select a number of print modes such as Photo, Photoenhance, Graph, Text, and Advanced Photo. These print modes produce types of prints that read on the instant invention's types of print jobs. Note column 1, line 63-column 2, line 3.

Fukui et al. discloses charging the surface of a photoconductor drum 41 by a sensitizing charger 43 to a sensitizing potential; and exposing the surface with a laser beam emitted from print head unit 31 or exposure means according to gradation data to form an electrostatic latent image on the photoconductor drum 41. Note column 5, lines 35-46. Fukui et al. discloses a first change means for changing the sensitizing electric potential of the charger 43; and a second change means for changing the quantity of light of the exposure means 31 according to the change in the sensitizing electric potential by the first change means so as to keep the gradation characteristic constant. Note column 2, lines 29-42.

Hashimoto et al. discloses using a transfer charger 3 being a corona charger. The transfer charger 3 may be replaced with a charging roller. Note column 5, lines 9-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. with that of Gilman et al. so that a various selection of prints can be obtained by easily selecting from a menu by a user.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. with that of Fukui et al. so that a gradation characteristic is kept constant as disclosed by Fukui et al. to obtain optimal printing (note Fukui et al.; column 2, lines 37-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. by replacing

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the transfer means 14 shown in Kunishi et al. as a corona with a roller because Hashimoto et al. shows that a transfer roller is an equivalent structure known in the art. Therefore, because these two transferring devices were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a transfer corona for transfer roller.

Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishi et al. (557) in view of Gilman et al. (770), Nishiuwatoko et al. (6,079,029), and Hashimoto (6,088,548).

Kunishi et al., as discussed above, differs from the instant invention by not disclosing an input unit inputting a print job, and selecting a print mode for a print job; a power supply unit for supplying power to the developer roller, the laser scanning unit, and the transfer means; a controller causing the light source to operate at an appropriate power level based on the magnitude of voltage applied to the charge roller; and a transfer means being a transfer roller.

Gilman et al. discloses it is well known in the art to use software such as Adobe Photoshop software in printers to allow a user to select a particular type of print to be produced by the printer. The Adobe Photoshop software is used to drive a printer and will allow a printer to have a pull down or displayed menu that permit a user to select a number of print modes such as Photo, Photoenhance, Graph, Text, and Advanced Photo. These print modes produce types of prints that read on the instant invention's types of print jobs. Note column 1, line 63-column 2, line 3.

Nishiuwatoko et al. discloses an image forming apparatus with a process cartridge. The image forming apparatus or apparatus main assembly 16 has a control section 38 sends control signals to a power source 33. The power source 33 comprises three power sources; a first low voltage power source 33a for powering the CPU or the laser, a second low voltage power source 33b for driving mainly the motors or the like, and the high voltage power source 33c for supplying the high voltages necessary for image formation process to the transfer roller 4, developing roller 10c, and the charging roller 8. Note column 20, lines 28-57.

Hashimoto et al. discloses using a transfer charger 3 being a corona charger. The transfer charger 3 may be replaced with a charging roller. Note column 5, lines 9-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. with that of Gilman et al. so that a various selection of prints can be obtained by easily selecting from a menu by a user.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kunishi et al. with that of Nishiuwatoko et al. so that one power supply unit can be used to supply power to the various components of an image forming apparatus so that the system can be more compact and simplified.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. by replacing

the transfer means 14 shown in Kunishi et al. as a corona with a roller because Hashimoto et al. shows that a transfer roller is an equivalent structure known in the art. Therefore, because these two transferring devices were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a transfer corona for transfer roller.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishi et al. (557) in view of Gilman et al. (770), as applied to claims 34, 36, and 37 above, and further in view of Fukui et al. (5,719,613).

Kunishi et al., as modified by Gilman et al., differ from the instant invention by not disclosing a controller causing the light source to operate at an appropriate power level based on the magnitude of voltage applied to the charge roller.

Fukui et al. discloses charging the surface of a photoconductor drum 41 by a sensitizing charger 43 to a sensitizing potential; and exposing the surface with a laser beam emitted from print head unit 31 or exposure means according to gradation data to form an electrostatic latent image on the photoconductor drum 41. Note column 5, lines 35-46. Fukui et al. discloses a first change means for changing the sensitizing electric potential of the charger 43; and a second change means for changing the quantity of light of the exposure means 31 according to the change in the sensitizing electric potential by the first change means so as to keep the gradation characteristic constant. Note column 2, lines 29-42.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. in view of

Gilman et al. with that of Fukui et al. so that a gradation characteristic is kept constant as disclosed by Fukui et al. to obtain optimal printing (note Fukui et al.; column 2, lines 37-42).

Claims 34, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (5,666,589) in view of Chapman (2002/0067498).

Yoshinaga et al. discloses an image forming apparatus with a photosensitive member 1; process devices such as a charging means 3, a developing means 4 with a developing roller (shown in Fig. 3), a laser scanning unit or an image exposing means 12, a transfer means 7; and a controller 11 controlling the process devices. When image data is supplied directly from a computer which can be used in place of the controller 11, the image data is processed and converted by the computer to be supplied to the printer section while selecting mode of reproducing resolution and gradation so as to provide desirable images. Note column 8, lines 13-41. The charging means 3 may comprise a corona charger, a roller charger, a brush charger, a magnetic brush charger or a blade charger. Note column 9, lines 8-11. The charging means 3 is controlled to provide a higher charged voltage to charge the surface of the photosensitive member 1 when a higher resolution copy is desired. In case of a richer gradation copy is desired, the charging means 3 is controlled to provide a lower charged voltage to charge the surface of the photosensitive member 1. Note column 8, lines 42-62.

Yoshinaga et al. differs from the instant invention by not disclosing submitting a print job via software via a user, the print job comprising a type of print job input by a user via software.

Chapman discloses a printing architecture that include hardware and software configuration that supports limited customization in executing a print job. The meet a customer's requirements for customization of a print job, a provider of printing software may modify a standard product with special software modifications. Note page 1, paragraph [0004]. This software allows a user to use an interface 20 to enter preferences and to select document-processing features of a printer for a print job. A document-processing feature may include a printing feature, a preprint processing feature, and a post-print processing feature. A printing feature refers to a data parameter or instruction that may control the way a printer prints a print job, the visual appearance of a print job or a portion thereof, or a physical characteristics of a completed print job. Examples of printing features may include the selection of fonts, the resolution of images, and the selection of colors in which to print a document. Note page 2, paragraph [0024].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. with that of Chapman so that a various selection of features for printing can be obtained by easily selecting from preferences from an interface of a printing system.

Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (589) in view of Chapman (2002/0067498), Fukui et al. (5,719,613), and Hashimoto et al. (6,088,548).

Yoshinaga et al. discloses an image forming apparatus with a photosensitive member 1; process devices such as a charging means 3, a developing means 4 with a developing roller (shown in Fig. 3), a laser scanning unit or an image exposing means 12, a transfer means 7; and a controller 11 controlling the process devices. When image data is supplied directly from a computer which can be used in place of the controller 11, the image data is processed and converted by the computer to be supplied to the printer section while selecting mode of reproducing resolution and gradation so as to provide desirable images. Note column 8, lines 13-41. The charging means 3 may comprise a corona charger, a roller charger, a brush charger, a magnetic brush charger or a blade charger. Note column 9, lines 8-11. The charging means 3 is controlled to provide a higher charged voltage to charge the surface of the photosensitive member 1 when a higher resolution copy is desired. In case of a richer gradation copy is desired, the charging means 3 is controlled to provide a lower charged voltage to charge the surface of the photosensitive member 1. Note column 8, lines 42-62.

Yoshinaga et al. differs from the instant invention by not disclosing a graphical user interface enabling a user to cause the electrophotographic apparatus to print a print job, and allowing the user to specify a type of print job; a controller causing the

light source to operate at an appropriate power level based on the magnitude of voltage applied to the charge roller; and a transfer means being a transfer roller.

Chapman discloses a printing architecture that include hardware and software configuration that supports limited customization in executing a print job. The meet a customer's requirements for customization of a print job, a provider of printing software may modify a standard product with special software modifications. Note page 1, paragraph [0004]. This software allows a user to use an interface 20 to enter preferences and to select document-processing features of a printer for a print job. A document-processing feature may include a printing feature, a preprint processing feature, and a post-print processing feature. A printing feature refers to a data parameter or instruction that may control the way a printer prints a print job, the visual appearance of a print job or a portion thereof, or a physical characteristics of a completed print job. Examples of printing features may include the selection of fonts, the resolution of images, and the selection of colors in which to print a document. Note page 2, paragraph [0024].

Fukui et al. discloses charging the surface of a photoconductor drum 41 by a sensitizing charger 43 to a sensitizing potential; and exposing the surface with a laser beam emitted from print head unit 31 or exposure means according to gradation data to form an electrostatic latent image on the photoconductor drum 41. Note column 5, lines 35-46. Fukui et al. discloses a first change means for changing the sensitizing electric potential of the charger 43; and a second change means for changing the quantity of light of the exposure means 31 according to the change in the sensitizing

electric potential by the first change means so as to keep the gradation characteristic constant. Note column 2, lines 29-42.

Hashimoto et al. discloses using a transfer charger 3 being a corona charger. The transfer charger 3 may be replaced with a charging roller. Note column 5, lines 9-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. with that of Chapman so that a various selection of features for printing can be obtained by easily selecting from preferences from an interface of a printing system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. with that of Fukui et al. so that a gradation characteristic is kept constant as disclosed by Fukui et al. to obtain optimal printing (note Fukui et al.; column 2, lines 37-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. by replacing the transfer means 7 shown in Yoshinaga et al. as a corona with a roller because Hashimoto et al. shows that a transfer roller is an equivalent structure known in the art. Therefore, because these two transferring devices were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a transfer corona for a transfer roller.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (589) in view of Chapman (2002/0067498), as applied to claims 34, 36, and 37 above, and further in view of Fukui et al. (5,719,613).

Yoshinaga et al., as modified by Chapman, differ from the instant invention by not disclosing a controller causing the light source to operate at an appropriate power level based on the magnitude of voltage applied to the charge roller.

Fukui et al. discloses charging the surface of a photoconductor drum 41 by a sensitizing charger 43 to a sensitizing potential; and exposing the surface with a laser beam emitted from print head unit 31 or exposure means according to gradation data to form an electrostatic latent image on the photoconductor drum 41. Note column 5, lines 35-46. Fukui et al. discloses a first change means for changing the sensitizing electric potential of the charger 43; and a second change means for changing the quantity of light of the exposure means 31 according to the change in the sensitizing electric potential by the first change means so as to keep the gradation characteristic constant. Note column 2, lines 29-42.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. in view of Chapman with that of Fukui et al. so that a gradation characteristic is kept constant as disclosed by Fukui et al. to obtain optimal printing (note Fukui et al.; column 2, lines 37-42).

Claims 1, 5, 7, 8, 13, 15, 16, 18, 21, 23, 26, 28, 30, 32, 42, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (589) in

view of Chapman (2002/0067498), Hashimoto et al. (6,088,548), and Nishiuwatoko et al. (6,079,029).

Yoshinaga et al., as discussed above, differs from the instant invention by not disclosing selecting a resolution for printing; a power supply unit for supplying power to the developer roller, the laser scanning unit, and the transfer means; and the transfer means being a transfer roller.

Chapman discloses a printing architecture that include hardware and software configuration that supports limited customization in executing a print job. The meet a customer's requirements for customization of a print job, a provider of printing software may modify a standard product with special software modifications. Note page 1, paragraph [0004]. This software allows a user to use an interface 20 to enter preferences and to select document-processing features of a printer for a print job. A document-processing feature may include a printing feature, a preprint processing feature, and a post-print processing feature. A printing feature refers to a data parameter or instruction that may control the way a printer prints a print job, the visual appearance of a print job or a portion thereof, or a physical characteristics of a completed print job. Examples of printing features may include the selection of fonts, the resolution of images, and the selection of colors in which to print a document. Note page 2, paragraph [0024].

Hashimoto et al. discloses using a transfer charger 3 being a corona charger. The transfer charger 3 may be replaced with a charging roller. Note column 5, lines 9-20.

Nishiuwatoko et al. discloses an image forming apparatus with a process cartridge. The image forming apparatus or apparatus main assembly 16 has a control section 38 sends control signals to a power source 33. The power source 33 comprises three power sources; a first low voltage power source 33a for powering the CPU or the laser, a second low voltage power source 33b for driving mainly the motors or the like, and the high voltage power source 33c for supplying the high voltages necessary for image formation process to the transfer roller 4, developing roller 10c, and the charging roller 8. Note column 20, lines 28-57.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. with that of Chapman so that a various selection of features for printing can be obtained by easily selecting from preferences from an interface of a printing system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al. by replacing the transfer means 7 shown in Yoshinaga et al. as a corona with a roller because Hashimoto et al. shows that a transfer roller is an equivalent structure known in the art. Therefore, because these two transferring devices were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a transfer corona for a transfer roller.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Yoshinaga et al. with that of Nishiuwatoko et al. so that one power supply unit can be used to supply power to the

various components of an image forming apparatus so that the system can be more compact and simplified.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (589) in view of Chapman (2002/0067498), Hashimoto et al. (6,088,548), and Nishiuwatoko et al. (6,079,029), as applied to claims 1, 5, 7, 8, 13, 15, 16, 18, 21, 23, 26, 28, 30, 32, 42, 46, and 47 above, and further in view of Kajiwara et al. (6,339,476).

Yoshinaga et al., as modified by Chapman, Hashimoto et al. and Nishiuwatoko et al., differ from the instant invention by not disclosing the selection of 600 dpi and 1200 dpi.

Kajiwara et al. discloses it is old in the art to have an image forming apparatus with a normal mode having a main scan resolution of 600 dpi and a sub-scan resolution of 600 dpi and a high quality mode having a main scan of 1200 dpi, and a sub-scan resolution of 1200 dpi. Note column 11, lines 11-16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Yoshinaga et al., as modified by Chapman, Hashimoto et al. and Nishiuwatoko et al. with that of Kajiwara et al. so that an image forming apparatus can have the capability to produce copies with a lower resolution such as 600 dpi to conserve toner or to produce copies with a higher resolution such as 1200 dpi to produce high quality prints.

Claim 25, 27, 29, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (589) in view of Chapman (2002/0067498),

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Hashimoto et al. (6,088,548), and Nishiuwatoko et al. (6,079,029), as applied to claims 1, 5, 7, 8, 13, 15, 16, 18, 21, 23, 26, 28, 30, 32, 42, 46, and 47 above, and further in view of Fukui et al. (613).

Yoshinaga et al., as modified by Chapman, Hashimoto et al. and Nishiuwatoko et al., differ from the instant invention by not disclosing the laser scanning unit applying a different power during the forming step based on the voltage magnitude applied to the charge roller.

Fukui et al. discloses charging the surface of a photoconductor drum 41 by a sensitizing charger 43 to a sensitizing potential; and exposing the surface with a laser beam emitted from print head unit 31 or exposure means according to gradation data to form an electrostatic latent image on the photoconductor drum 41. Note column 5, lines 35-46. Fukui et al. discloses a first change means for changing the sensitizing electric potential of the charger 43; and a second change means for changing the quantity of light of the exposure means 31 according to the change in the sensitizing electric potential by the first change means so as to keep the gradation characteristic constant. Note column 2, lines 29-42.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Yoshinaga et al., as modified by Chapman, Hashimoto et al. and Nishiuwatoko et al., with that of Fukui et al. so that a gradation characteristic is kept constant as disclosed by Fukui et al. to obtain optimal printing (note Fukui et al.; column 2, lines 37-42).

Claims 8-11, 13, 15, 21-23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishi et al. (557) in view of Gilman et al. (770), Nishiuwatoko et al. (6,079,029), and Hashimoto (6,088,548).

Kunishi et al., as discussed above, differs from the instant invention by not disclosing selecting a print mode; a power supply unit for supplying power to the developer roller, the laser scanning unit, and the transfer means; and a transfer means being a transfer roller.

Gilman et al. discloses it is well known in the art to use software such as Adobe Photoshop software in printers to allow a user to select a particular type of print to be produced by the printer. The Adobe Photoshop software is used to drive a printer and will allow a printer to have a pull down or displayed menu that permit a user to select a number of print modes such as Photo, Photoenhance, Graph, Text, and Advanced Photo. These print modes produce types of prints that read on the instant invention's types of print jobs. Note column 1, line 63-column 2, line 3.

Nishiuwatoko et al. discloses an image forming apparatus with a process cartridge. The image forming apparatus or apparatus main assembly 16 has a control section 38 sends control signals to a power source 33. The power source 33 comprises three power sources; a first low voltage power source 33a for powering the CPU or the laser, a second low voltage power source 33b for driving mainly the motors or the like, and the high voltage power source 33c for supplying the high voltages necessary for image formation process to the transfer roller 4, developing roller 10c, and the charging roller 8. Note column 20, lines 28-57.

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Hashimoto et al. discloses using a transfer charger 3 being a corona charger. The transfer charger 3 may be replaced with a charging roller. Note column 5, lines 9-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. with that of Gilman et al. so that a various selection of prints can be obtained by easily selecting from a menu by a user.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Kunishi et al. with that of Nishiuwatoko et al. so that one power supply unit can be used to supply power to the various components of an image forming apparatus so that the system can be more compact and simplified.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. by replacing the transfer means 14 shown in Kunishi et al. as a corona with a roller because Hashimoto et al. shows that a transfer roller is an equivalent structure known in the art. Therefore, because these two transferring devices were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a transfer corona for transfer roller.

Claims 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinaga et al. (589) in view of Kunishi et al. (557) in view of Gilman et al. (770),

Nishiuwatoko et al. (6,079,029), and Hashimoto (6,088,548), as applied to claims 8-11, 13, 15, 21-23, and 28 above, and further in view of Fukui et al. (613).

Kunishi et al. (557) as modified by of Gilman et al. (770), Nishiuwatoko et al. (6,079,029), and Hashimoto (6,088,548) differ from the instant invention by not disclosing the laser scanning unit applying a different power during the forming step based on the voltage magnitude applied to the charge roller.

Fukui et al. discloses charging the surface of a photoconductor drum 41 by a sensitizing charger 43 to a sensitizing potential; and exposing the surface with a laser beam emitted from print head unit 31 or exposure means according to gradation data to form an electrostatic latent image on the photoconductor drum 41. Note column 5, lines 35-46. Fukui et al. discloses a first change means for changing the sensitizing electric potential of the charger 43; and a second change means for changing the quantity of light of the exposure means 31 according to the change in the sensitizing electric potential by the first change means so as to keep the gradation characteristic constant. Note column 2, lines 29-42.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Kunishi et al. (557) in view of Gilman et al. (770), Nishiuwatoko et al. (6,079,029), and Hashimoto (6,088,548) with that of Fukui et al. so that a gradation characteristic is kept constant as disclosed by Fukui et al. to obtain optimal printing (note Fukui et al.; column 2, lines 37-42).

Allowable Subject Matter

Claims 2, 4, 6, 12, 14, 17, 19, 20, 24, and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 5, 7, 8, 10, 11, 13, 15, 16, 18, 21, and 23 have been considered but are moot in view of the new ground(s) of rejection.


In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 703-308-2138. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 703-308-1373. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Susan S. Lee
Primary Examiner
Art Unit 2852

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September 25, 2003